

Relationship between Grit and Academic Success among Baccalaureate Nursing Students

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Abstract

Background: Grit is the ability to persist in something feel passionate about and persevere when facing obstacles. This kind of passion is not about intense emotions or infatuation. It's about having direction and commitment that play a pivotal role in achieving success and personal fulfillment. **Aim of the study:** This study aimed to assess grit and its relation to academic success among baccalaureate nursing students. **Research design:** A descriptive correlational design was used to carry out this study. **Setting:** The study was conducted at the Faculty of Nursing at Ain Shams University. **Subjects:** The subjects were included in 492 nurse students in the academic year 2023/2024. **Tools:** Data were collected by using a grit questionnaire and an academic success scale. **Results:** presents that less than one-third (29.3%) of the fourth academic nursing students had high grit levels. while less than one-fifth (12.2%) of the second academic nursing students had low grit levels. Meanwhile, more than one-quarter (29.1%) of the fourth academic nursing students had a "good academic success level", while less than one-fifth (14.2%) of the second academic nursing students had a "poor academic success level". **Conclusion:** There was a highly statistically significant correlation between grit and academic success among nursing students. **Recommendations:** Provide a supportive and positive academic environment for nursing students, building mutual relationships between faculty members and their students to enhance students' grit to share in academic and nonacademic activities and reach success.

Keywords: Academic success, Grit, Nursing students.

Introduction

Nursing students entering college face several tasks that not only challenge the students' academic capabilities, but social and emotional competencies as well. Academic tasks such as conducting research, writing records, attending classes, reciting in class, and problem-solving, as well as social relations such as interacting effectively with peers, reaching out to mentors, and empowering their potential are only some of the responsibilities that these students are expected to complete, to face and overcome these challenges, the students need to be equipped with skills and knowledge to

ensure academic success (Contreras et al., 2020).

Education plays a key role in the process of the advancement of nations, and peoples so that all nations of the world seek to expand their education. Therefore, educational institutions seek to find quality teaching outcome that aim to generate active and positive students, and the instructors are guided to achieve the educational outcomes which are accomplished through the application of gritty techniques to reach academic success (Shavkidinova et al., 2023).

Undergraduate nursing students are faced with a curriculum that assesses and evaluates the students on an ongoing basis.

Every semester students are required to attend clinical training in the hospital setting, not only do the students need to apply what they have learned in class to the clinical setting, but they also need to deal with all of the other intervening factors, so examining nursing students' success levels and their academic outcomes is complex and multifaceted. Also, the nursing profession must be ready to embrace a new age of realism about the changing students (**Michel et al., 2021**).

Grit is a predictor of academic, professional, and personal success. Grit can be defined as strength of character or the ability to overcome failure and continue to work toward success. People with grit are not always the people with the most natural ability, but their work ethic and ability to overcome obstacles them to achieve success. Grit is a very valuable characteristic in almost any venture, as it gives someone an advantage in overcoming the inevitable obstacles they will face. However, grit is much easier to adopt when an individual has a growth mindset. The first step to obtaining grit is to correlate both self-control and self-confidence when trying to reach an objective (**Schimschal et al., 2021**).

Grit is the power of passion and perseverance. Passion and perseverance are not qualities that everybody has. Not everybody who sets a long-term goal achieves it. People who have passion and perseverance are most likely to succeed in life, because passion is what gives us the ability to stick to a goal for a long period of time, and perseverance is the motivation to continue pursuing our goals. Passion and perseverance are the bridges to achieving your goal (**Vallerand et al., 2023**).

Academic success is multifaceted and involves more than just achieving high grades. It encompasses a holistic approach to learning, personal growth, and skill development. Here are some key points to consider, beginning with effective study techniques. Students who manage their time well, use active learning strategies, and seek help when needed tend to perform better academically. The ability to think critically, analyze information, and solve complex problems. Students who

engage in critical thinking develop a deeper understanding of their subjects and perform well in exams and assignments (**Lynam et al., 2024**). Grit, characterized by perseverance and resilience, plays a crucial role in academic achievement. Students who persist through challenges, setbacks, and failures are more likely to succeed in their studies. Clear communication is essential for academic success. Whether it's writing essays, participating in discussions, or presenting research, students who can express their ideas effectively excel in their academic pursuits. Striking a balance between academic commitments and self-care is vital. Students who prioritize physical health, mental well-being, and social connections tend to perform better overall (**Mahdavi et al., 2023**).

Numerous studies have demonstrated that students with higher levels of grit tend to achieve higher achievement and develop essential skills like self-regulation, time management, and problem-solving. Conversely, students who lack grit are more susceptible to academic burnout, procrastination, and ultimately, underperformance. By cultivating grit, university students can enhance their chances of achieving their academic goals, developing a strong work ethic, and laying the foundation for future success in their chosen careers (**Ramos & Meador, 2023**).

Significance of the study:

The study of grit in areas outside of healthcare has demonstrated grit to be an important characteristic impacting academic goal achievement in individuals. This is important in terms of preparing nursing students for transition into the hospital setting as licensed nurses (**Fernández-Martín et al., 2020**). Nursing students must develop and refine the knowledge, skills, and personal characteristics needed for success, not only in the academic program but in the chosen nursing specialty upon graduation.

This process includes both cognitive and non-cognitive traits. The development and refinement of non-cognitive traits have demonstrated a predictive relationship with the achievement of academic goals and an

increased likelihood of entering and remaining in the nursing profession. Therefore, it is valuable to examine non-cognitive factors and characteristics that impact student academic success and ultimate graduation from a nursing program, given the intent to examine the relationship between grit and its relation to academic success (Arnold and Doan, 2022).

Aim of the study

This study aimed to assess grit and its relation to academic success among baccalaureate nursing students, though assess grit levels among baccalaureate nursing students, assess academic success levels among baccalaureate nursing students, to find out the relationship between grit and academic success among baccalaureate nursing students.

Research Question

Is there a relation between grit and academic success among baccalaureate nursing students?

Subjects and Methods

Research Design:

A descriptive correlational design was used to carry out this study.

Research Setting:

This study conducted at the Faculty of Nursing at Ain Shams University. It contains nine different scientific departments, namely (Medical-surgical nursing (I, II), critical nursing, Maternity and gynecology nursing, Pediatric nursing, Community health nursing, Psychiatric and Mental health nursing, Nursing administration and geriatric department.

Subjects:

The study subjects were included using a simple random technique from the students enrolled in the second and fourth academic years, especially in the second term at the faculty of nursing Ain Shams University through the academic year (2023/2024). The subjects were including 492 out of (1,314) nurse students. The sample size was determined based on this equation:

$$n = \frac{N \times p(1 - p)}{[N - 1 \times (d^2 \div Z^2)] + p(1 - p)}$$

(Thompson, 2012)

Data were collected using two tools, namely:

First tool: Grit Original scale (grit-O scale):

This tool was aimed at assessing baccalaureate nursing students' grit level. It was developed by (Duckworth et al, (2007) and modified by the researcher.

It consists of two parts:

Part 1: Personal characteristics. This part focuses on collecting data pertaining to the personal characteristics of nursing students, including age, gender, academic year, academic term, and nationality.

Part 2: This part consists of 12 items, which are classified into two subscales as the following description: Consistency of interest (6 items) and Perseverance of effort (6 items).

Subscales	No of items	Examples
1- Consistency of interest	6 Items	-I often set a goal but later choose to pursue a different one.
2- Perseverance of effort	6 Item	-I finish whatever I be -Setbacks discourage me

Scoring system:

The participant response was on 3 points Likert scale the score for questions 1, 4, 6,9,10 and 12. was, very much like me (3), somewhat like me (2), not like me at all (1), and for questions 2, 3,5,7,8 and 11 assign the following points: very much like me (1), somewhat like me (2), not like me at all (3). Mean was calculated and then converted into percentage total score was 36 grades and the cut point was done at 60%. Total percentage of grit scale divided into three levels (high grit, average or moderate grit, and low grit) was guided by (Johnson, 2023). High grit level when total percentage was $\geq 75\%$ that equals between 27 scores and 36 scores, Average or moderate grit level when percentage ranged from 60 % to 75% that equals between 22< 27 scores, Low grit level when percentage was < 60% that equals 1< 22 score.

2- Second Tool: Academic Success Inventory for College Student (ASICS):

This tool was aimed to assessing baccalaureate nursing students' academic success level, it was developed by (Prevatt et al., (2011) and was adapted by the researcher. It consists of 50 items, under 10 dimensions.

Subscales	No of items	Examples
Career decidedness	(4 items).	I am certain about what occupation I want after I graduate
Internal motivation/ confidence	(8 items).	I got satisfaction from learning new material in this class.

Scoring System:

The participant response was on 5 points Likert scale as (Strongly disagree (1), disagree (2), Neutral (3), agree (4), strongly agree (5). Mean was calculated and then converted into percentage total score was 250 grades and the cut point was done at 60%. Total percentage of academic success scale divided into three levels (Good academic success, Average academic success, and Poor academic success) will be guided by **Wafaa et al., (2024)**.

Good academic success level when total percentage was $\geq 75\%$ that equals between 188 scores and 250 scores. Average academic success level when percentage ranged from 60 % to 75% that equals between 150 < 188 scores. Poor academic success level when percentage was < 60% that equals 1 < 150 score.

Preparatory Phase:

This phase started from October 2023 till January 2024; it covered four months. During this time, the researcher reviewed the past and current, national and international related literature. This was performed using textbooks, articles, and internet searches in periodicals, magazines, and databases concerning the topic of the study. This helped the researcher acquire in-depth theoretical knowledge of the various aspects of the study topic. It also served as the subject of the study and tools for data collection.

Pilot Study:

A pilot study was carried out after modifying the tools and before starting data collection. Fifty nursing students representing 10% of the main study sample participated in the pilot study, they were selected randomly. The pilot study was served to assess the clarity of language, applicability, and relevance of the tools, in addition to estimate the needed time for data collection. The researcher asked the participants to fill out the questionnaire and to note any questions that were confusing or hard to answer. Minimal modifications were done. These nursing students were excluded from the main study sample.

Content Validity:

The preliminary form of the questionnaire was presented to a jury group for face and content validation. The jury group consisted of five experts in the field of nursing administration and psychiatric mental health nursing departments affiliated to Ain Shams University (one professor, two assistant professors from nursing administration department), (Two assistant professor from psychiatric mental health nursing department, the process involved their general or overall opinion about the tools of data collection.

Each tool was assessed for its clarity, comprehensiveness, simplicity, understanding, and applicability. According to the jury opinions modifications as rephrasing and adding or omission were performed by the researcher.

Reliability:

Cronbach's alpha coefficient was used to assess the internal consistency of both tools.

Data collection tools	No of Items	Cronbach Alpha
Grit Original scale (grit-O scale).	12	0.92
Academic Success Inventory for College Student (ASICS).	50	0.90

Fieldwork:

The field work of the study extended through the second term semester of the academic year (2023/2024). Time for data collection took three months, starting from the beginning of February and being completed till the end of April. The researcher arranged

with the head of the scientific department and nursing administration course coordinators of each grade for determining the suitable time to collect the data. The researcher introduced herself to nursing students in the classroom, then explained the aim and components of the questionnaire sheet. And consent to all students done, the researcher divided each year into groups to collect tools in their classrooms and during break time. Each student received a copy of scale sheets and took 20 minutes to answer it. The researcher was present during this process to explain and give necessary instructions. Data was collected for 3 days/week (3hour/day) and every day collected around 15-20 sheets. The researcher checked each filled-out questionnaire sheet to ensure its completion.

Ethical Considerations

Prior to study conduct, an ethical approval of the study protocol was obtained from the scientific research ethical committee of the Faculty of Nursing at Ain Shams University. The subjects were informed about their right to withdraw at any time without giving any reason and data were considered confidential and not be used outside this study. Informed consent was obtained from each participant in the study.

Administrative Design:

Before starting on the study, letters were issued from the Dean of the Faculty of Nursing, at Ain Shams University to the head of each scientific department. The letter explained the aim of the study to facilitate the data collection phase. The researcher explained the importance of the study and the implication of expected results for the study subjects.

IV. Statistical Design:

The collected data was organized, categorized, computerized, tabulated and analyzed using excel program and SPSS software version 25. For quantitative data, the range, mean, and standard deviation were calculated. For qualitative data the number and percent were calculated and Chi-square was used. The one-way ANOVA procedure

produced a one-way analysis of variance for a quantitative dependent variable by a single factor (independent variable). Correlation between variables was done using Pearson correlation for parametric data. For all above mentioned statistical tests done, the threshold of significance is fixed at 5% level (p value). P value of ≤ 0.05 indicates a significant result. While, p value of ≤ 0.01 indicates a high significant result.

Results

Table (1) shows that more than half of studied nursing students (54.1%) were in the 2nd academic year and had ranged from 18 to more than 19 years with a total mean of 30.08 ± 5.57 , less than two-thirds of nursing students were females (64%). Also, the majority of them were Egyptian, and in the second semester (97%-100%).

Figure (1) demonstrates that less than two thirds of students were female. While more than one third of them were male students.

Figure (2) shows that more than half of students were at second academic year. While more than two-fifths of them fourth academic year.

Table (2) indicates that more than a quarter (28.5%) of the fourth academic nursing students had high grit levels regarding perseverance of effort. Also, slightly nearly one-third (31.5%) of the fourth academic nursing students had high grit levels regarding the consistency of interest. While more than one-quarter (26.2%) of second academic nursing students had high grit levels regarding perseverance of effort and more than one-fifth (24.4%) had high grit levels regarding consistency of interest.

Table (3) presents that more than half (54.7%) of the studied nursing students had high grit levels regarding perseverance of effort, and more than half (55.9%) of the studied nursing students had high grit levels regarding the consistency of interest.

Table (4) presents that nearly one-third (29.3%) of the fourth academic nursing students had high grit levels. Also, less than one-fifth (14.8%) of the fourth academic nursing students had moderate grit levels.

while less than one-fifth (12.2%) of the second academic nursing students had low grit levels.

Figure (3): Total grit levels among nursing students.

Demonstrates that more than half of the studied nursing students (56.7%) had high grit levels. while more than one-quarter (29.3%) of the studied nursing students had moderate grit levels. Also, less than one-fifth (14%) had low grit levels.

Table (5) Comparison between the second and fourth academic nursing students according to their academic success dimensions.

Shows that less than to one-third (30.5%) of the fourth academic nursing students had good levels of perceived instructor efficacy dimension, and less than one-third (29.1%) of second nursing students had good levels of concentration.

Figure (4): Total academic success levels among nursing students.

Demonstrates that more than half of the studied nursing students (55.1%) had good academic success levels. while more than one-quarter (28%) of the studied nursing students had average academic success. Also, less than one-fifth (16.9%) had poor academic success

Table (6) presents that more than one-quarter (29.1%) of the fourth academic nursing students had “good academic success level”. while less than one-fifth (14.2%) of the second academic nursing students had “poor academic success level”.

Table (7) Reveals that there was a highly significant correlation coefficient between nursing students’ grit dimensions, and academic success dimensions ($P = < 0.01$).

Table (8) Reveals that there was a correlation between total nursing students' grit levels, and academic success levels total scores ($P = < 0.01$).

Table (1): Baccalaureate nursing students’ personal characteristics (n=492)

Personal characteristics	Nursing students in studied sample (n=492)	
	N	%
Age (year)		
18≤19	266	54.1
≥20	226	45.9
Mean±SD	30.08±5.57	
Gender		
Male	177	36
Female	315	64
Nationality		
Egyptian	477	97
Other nationality	15	3
Academic year		
2 nd academic year	266	54.1
4 th academic year	226	45.9
Semester		
First semester	-	-
Second semester	492	100

Figure 1: Distribution of the studied nursing students according to their gender

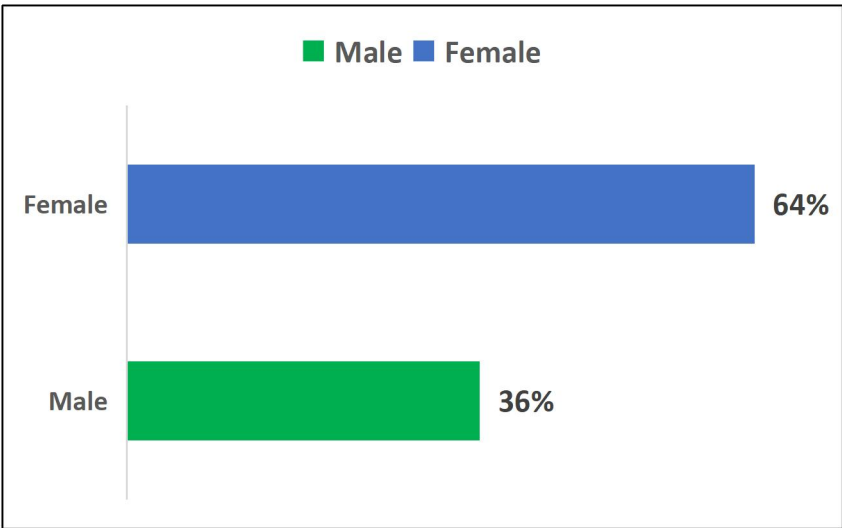


Figure 2: Distribution of the studied nursing students according to their academic year.

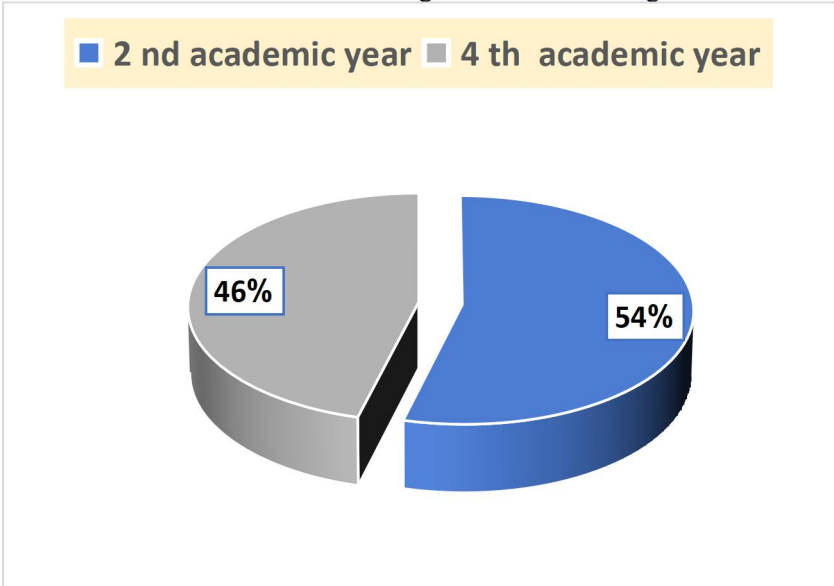


Table (2): Comparison between the second and fourth academic nursing students according to their grit dimensions.

Grit dimensions	The second academic nursing students (n=266)						The fourth academic nursing students (n=226)					
	High grit level ≥75		Moderate grit level 60-75%		low grit level <60 %		High grit level ≥75		Moderate grit level 60-75%		low grit level <60 %	
	N	%	N	%	N	%	N	%	N	%	N	%
Perseverance of effort	129	26.2	75	15.2	62	12.6	140	28.5	83	16.9	3	0.6
Consistency of interest	120	24.4	100	20.3	46	9.3	155	31.5	44	9	27	5.5

Table (3): Total distribution of studied nursing students according to their grit dimensions.

Grit dimensions	Grit dimensions among nursing students					
	High grit level ≥75		Moderate grit level 60-75%		low grit level <60 %	
	N	%	N	%	N	%
Perseverance of effort	269	54.7	158	32.1	65	13.2
Consistency of interest	275	55.9	144	29.3	73	14.8

Table (4): Comparison between the second and fourth academic nursing students according to total grit.

Grit	The second academic nursing students (n=266)		The fourth academic nursing students (n=226)	
	N	%	N	%
High grit level	135	27.4	144	29.3
Moderate grit level	71	14.4	73	14.8
low grit level	60	12.2	9	1.8
Total	266	54	226	46

Table (5): Total distribution of studied nursing students according to their academic success dimensions.

Academic success dimensions	Academic success dimensions among nursing students					
	Good ≥75		Average 60-75%		Poor <60%	
	N	%	N	%	N	%
Career decidedness	285	57.9	139	28.3	68	13.8
Internal motivation/ confidence	274	55.7	158	32.1	60	12.2
External motivation / future	262	53.3	172	35	58	11.8
General academic skills	272	55.3	137	27.8	83	16.9
Lack of anxiety	45	9.1	181	36.8	266	54.1
Concentration	289	58.7	129	26.2	74	15
External motivation/current	261	53	152	30.9	79	16.1
Personal adjustment	72	14.6	175	35.6	245	49.8
Perceived instructor efficacy	248	50.4	198	40.2	46	9.3
Socialization	49	10	248	50.4	195	39.6

Table (6): Comparison between the second and fourth academic nursing students according to total academic success

Academic success	The second academic nursing students (n=266)		The fourth academic nursing students (n=226)	
	N	%	N	%
Good academic success level	128	26	143	29.1
Average academic success level	68	13.8	70	14.2
Poor academic success level	70	14.2	13	2.6
Total	266	54	226	46

Table (7): Correlation coefficient between nursing students' grit dimensions, and academic success dimensions.

Grit dimensions		Pearson correlation coefficient									
		Academic success dimensions									
		Career decidedness	Internal motivation/ confidence	External motivation / future	General academic skills	Lack of anxiety	Concentration	External motivation/current	Personal adjustment	Perceived instructor efficacy	Socialization
Perseverance of effort	r	0.647	0.625	0.592	0.628	-0.554	0.636	0.608	-0.579	0.515	-0.409
	P	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Consistency of interest	r	0.635	0.602	0.569	0.634	-0.533	0.658	0.608	-0.583	0.495	-0.390
	P	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**

Table (8): Correlation between total nursing students grit levels, and academic success levels total scores.

Items	Total academic success
Total grit	r = 0.614 P = 0.000 **

Discussion

The present study aimed to assess grit and its relation to academic success among baccalaureate nursing students. The research question stated, “Is there a relation between grit and academic success among baccalaureate nursing students?”

Concerning the description of baccalaureate nursing students' age. The present study findings revealed that more than half of the studied nursing students ranged from 18 to more than 19 years old and were in their 2nd academic year. From the research point of view, this similarity because the two papers done in Egypt, follow the same policy, rules, and regulations associated with student acceptance in the faculty of nursing.

On the same line, **Attia and Abdelwahid (2020)** found that less than two-thirds of nursing students aged ≤ 20 were in their third year. Therefore, the researcher points out this similarity because the two papers done in Egypt follow the same policy, rules, and regulations associated with student acceptance in the faculty of nursing.

Concerning the description of baccalaureate nursing students' gender. The present study findings revealed that less than two-thirds of nursing students were females. According to the researcher, this discovery is due to women's greater drive for success and excellence. A similar conclusion was consistent with a study done in the United States by **Munn et al. (2022)**, which found that the majority of study samples were female.

Considering the description of baccalaureate nursing students' nationality. The current investigation found that the majority of them were Egyptian. According to the researcher, these findings are the outcome of a study conducted at Ain Shams University, which is located in the province of Cairo.

Regarding the comparison between the second and fourth academic nursing students according to their grit dimensions. Present findings showed that only more than a quarter of the fourth academic nursing students had

high grit levels regarding perseverance of effort. Observed from the perspective of the researcher, this may be that students had a low passion for breaking pressures, and made efforts. This study finding was consistent with the study conducted at William Carey University by **Biangone, (2020)** which indicated that a minority of the studied sample had a high grit level regarding perseverance of effort.

In the light of comparison between the second and fourth academic nursing students according to total grit. the present study presented that nearly one-third of the fourth academic nursing students had high grit levels. In the opinion of the researcher, these results are due to most students reaching the fourth academic year having more passion to graduate. This study finding was consistent with a study conducted in the United States by **Mamun & Hasanuzzaman, (2020)** which revealed less than one-third of the studied nursing students have high grit levels.

In the relationship to total distribution of studied nursing students according to their academic success dimensions. The current study indicated that more than half of the studied nursing students had good levels of “Concentration”. These results were pertaining to younger students generally having shorter attention spans compared to older students. This is because the brain's ability to focus and maintain attention improves with age. In the same line, **Brown et al., (2021)** indicated that more than half of nursing students had high academic success regarding concentration among older academic years.

Concerning comparison between the second and fourth academic nursing students according to total academic success. The current study revealed that one-quarter of the fourth academic nursing students regarding “good academic success level than second nursing students. According to the researcher, this discovery may be due to getting accustomed to the study and study nursing system, so academic success is greater for fourth-year students. In the same line, **Bokan et al., (2020)** revealed that the majority percentage of fourth-year nursing students had

academic success than more younger academic years.

Regarding total academic success levels among nursing students. The present study indicated that more than half of the studied nursing students had good academic success levels. Researcher opinion, this may be due to educators can help develop grit in students by setting high expectations, providing support, and encouraging a growth mindset. This includes teaching students that making mistakes is a normal part of learning.

In the same line of findings, a study conducted in California by **Burke et al., (2022)** presented that high percentages of students had high grit level. Also, **Abubakar et al., (2021)** indicated that high percentages of students had high grit level. On the other hand, **Al-Zain & Abdulsalam, (2022)** revealed that more than two thirds of students had low grit scores.

In the light of the correlation between total nursing students grit levels, and academic success levels. The present study revealed that there was a positive correlation between total nursing students' grit levels, and academic success levels. Moreover, researcher point out that these findings may be due to grit which motivates, encourages students to develop skills and strive for academic success. In agreement with **Montas et al., (2021)** revealed that there was a positive correlation between total grit levels, and academic success levels. Also, **Daniels et al., (2023)** indicated a positive relation between total grit, and academic success.

Conclusion

There was a highly statistically significant correlation between total grit and nursing students' personal characteristics, highly statistically significant correlation between academic success and nursing students' personal characteristics and also, there was a highly statistically significant correlation between total grit and academic success among nursing students.

These present findings answer the research question which stated.

Is there a relationship between grit and academic success among baccalaureate nursing students?

Recommendations

In the light of the findings of the current study the following recommendations are suggested:

- Enhance students resilience against challenge, fostering their growth into confident and responsible individuals in both academic setting and life.
- Guiding, and supporting students to develop their ability of effort and persistence skills.
- Provide students with an adequate training and orientation about how to develop and apply grit till reach to success.
- Learn students to have hope and find purpose in what they are doing

Future researcher:

- Studying factors affecting nursing student level of grit and academic success.
- Assessing challenges facing implementation of grit strategies or ways to grow it among nursing students.

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